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THE PLANT DISEASE REPORTER

Continuation of

THE PLANT DISEASE BULLETIN

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THE PLANT DISEASE SURVEY

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BUREAU OF PLANT INDUSTRY

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THE PLANT DISEASE REPORTER

Continuation of the Plant Disease Bulletin

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THE PLANT DISEASE SURVEY

Vol. VII October 1, 1923 Number 8

FUSARIUM WILT OF TOMATO DESTRUCTIVE

Virginia: Found in an unusually high percentage of fields in eastern part of State and more general throughout western part than normally. Unusual prevalence associated, no doubt, with high temperatures of summer. Losses ranged from 5 to 75% of plants. (Fromme, Sept. 15)

Kentucky: About Henderson on the Kentucky side of the Ohio the tomato growing industry has practically disappeared, due to this disease. In McCracken County, near Paducah, it is causing some damage. It does not appear to be present in the canning region in Carlisle, Ballard and Hickman or Graves Counties. (Gardner, Aug. 15)

Mr. Gardner reports a total loss on 18 acres of tomatoes in McCracken County, while on three adjacent acres planted to Norton (resistant) 75% came through with less than 40% normal yield, due in part at least to leaf diseases. All plants were dead September 20. On another one-half acre diseased plot in McCracken County, planted with Norton and Norduke, about 80% were resistant to wilt with about 60% normal crop. Reduction in part due to leaf disease. (Valleau, Oct. 1)

South Carolina: Found in localized areas throughout state. Has not been of serious importance this season. (Moore, Sept. 15)

Alabama: Generally distributed, but usually only on scattered plants. Not as important this year as the leaf spot. Loss 4%. (Miles, Sept. 1)

Ohio: Many reports. Disease seems to be on the increase, especially in the prominent truck growing centers. Very considerable losses have resulted. (Young, Sept. 15)

Illinois: Reported in varying degrees of seriousness from 11 counties. In Williamson County losses of 25 to 75% are recorded. It was not found to be serious in the commercial fields of Effingham County in recent examinations. (Tehon, Sept. 15)

Kansas: In epidemic form again this year causing total loss in some fields. Found in two new counties, spreading westward and north from southeast section. Only a trace last year in Wyandotte County. This year every field shows from 5 to 100%. Resistant varieties standing up well. (White, Sept. 15)

REPORTS ON SEPTORIA LEAF BLIGHT OF TOMATO

Virginia: Very general - present in all fields. Losses range from 10 to 75% of crop. Many fields were defoliated by September 1 and harvest practically ended. (Fromme, Sept. 15)

South Carolina: General throughout State. Severe on fields that were not sprayed. Eight of the most important counties report an average infection of 15%. (Moore, Sept. 15)

Atlanta: General and serious. Average loss probably 5%. Four applications of Bordeaux gave no appreciable control in one instance where tried. Little spraying done. (Miles, Sept. 1)

Ohio: A few reports, but no destructive outbreak. (Young, Sept. 15)

Kansas: More widespread than wilt and is serious this season. Many of the varieties resistant to wilt have been killed by leaf spot. (White, Sept. 15)

EARLY BLIGHT OF TOMATO COMMON BUT NOT SERIOUS

Connecticut: Only one report with little injury. (Clinton, Aug. 15)

Inconspicuous, no damage. (Clinton, Sept. 15)

New Jersey: Very slight infection this year considering the dry weather conditions. (Poole, Aug. 1)

West Virginia: Ranges from light to severe infection in Ohio valley section. Generally late in appearing. Very light infection throughout remaining sections of State, probably due to lateness of crop. (Sherwood, Aug. 2)

Alabama: Caused some defoliation. Not serious. (Miles, Sept. 1)

Ohio: Quite widespread but not very destructive; rather more than last year. (Young, Sept. 15)

Illinois: Have had reports of occurrence from 8 widely separated counties. On the whole this disease has not been serious, although weather conditions within the last ten days has influenced the spread of the disease. This fact is exemplified in Effingham County where examinations of 3 large fields showed all plants diseased with from 30 to 100% of the leaves seriously injured and a serious defoliation occurring. (Tehon, Sept. 15)

TOMATO MOSAIC

More reports on tomato mosaic have been received this year than usual, and these reports indicate that the disease is becoming more widespread and serious than heretofore. The following are typical reports.

Connecticut: Apparently one of the most conspicuous troubles of the year, but even at that not unusually common or serious. (Clinton, Sept. 15)

New York: Mosaic of tomatoes is common and the growers fear it more than any other trouble. I have not observed any diseased ground cherries or horse nettles in the vicinity of diseased fields or for that matter anywhere else on the island. (Clayton, Aug. 23)

Alabama: Trace, but no marked loss. (Miles, Sept. 1)

Ohio: Increasing in prevalence and found in nearly all parts of the State. Difficult to estimate loss as many growers do not recognize the disease. Losses, however, are doubtless considerable. (Young, Sept. 15)

Illinois: Reported twice only - a slight infection in a private garden and a few plants in the commercial fields of Effingham County. (Tehon, Sept. 15)

Kansas: Quite widely scattered all over State. Symptoms evident, and not masked as they are with potato mosaic. Fern leaf type occasionally found. Cases reported from Garden City and vicinity, where mosaic was preventing fruiting. (White, Sept. 15)

BLOSSOM END ROT OF TOMATO

The report from Kansas given below is of especial interest, as it indicates that temperature is a greater factor in the production of blossom end rot than is commonly supposed. Pathologists will await with interest the publication of the results of experimental work upon which these conclusions are based.

Connecticut: The most serious trouble of the tomato this year, and largely limited to certain varieties. (Clinton, Sept. 15)

Alabama: General and in many instances caused serious loss. Probably 4%. (Miles, Sept. 1)

Ohio: Slight amount on early crop. Owing to weather conditions late crop not much damaged. (Young, Sept. 15)

North Dakota: Not as common as in previous years. (Weniger, Aug. 15)

Kansas: Indications are that soil and air temperatures are a factor of as great importance, if not more so than soil moisture, judging from some preliminary soil moisture studies conducted here. This was severe on early fruit, causing 10 to 12% loss on light soils - average for state not over 2 to 3%. Late fruit not troubled much, due to frequent rains and low temperatures. (White, Sept. 15)

TOBACCO MOSAIC IMPORTANT

Connecticut: Probably only average amount, at least no general complaint. (Clinton, Sept. 1)

Kentucky: Initial infection with Mosaic (i. e. at setting time) ranges from none to 97% in the fields examined with an average of about 14%. The relationship between infected weeds and the disease in tobacco is everywhere evident. In the western part of the State (Christian County) where the beds are usually placed in the woods, little or no mosaic is seen except on suckers after the plants are nearly mature. In the Burley section mosaic burning and speck spots are causing serious losses. (Valleau and Kinney, Sept. 1)

Wisconsin: This was undoubtedly the most serious disease in Wisconsin this year. Most fields more or less affected, from no appreciable amount to 100%. Stunting and "rusting" (secondary) caused a loss which is conservatively estimated at over $100,000. Disease started from seed bed infection, the original source of which was questionable. Early signs of disease were favored by the warm weather of July. (Johnson, Sept. 1)

WISCONSIN SENDS IN REPORTS OF TOBACCO DISEASES

We are fortunate in being able to publish in this issue reports on Wisconsin tobacco diseases, prepared by Dr. James Johnson, specialist in tobacco pathology. These reports, which are as of September 1, are given below:

Wildfire caused by Bacterium tabacum:

Disease occurred on about 40 farms this season as contrasted with 90 last year. The disease has not spread much owing to dry weather and absence of storms. No serious losses on any farms reported up to September 1. (Johnson, Sept. 1)

Root-rot caused by Thielavia basicola:

Not much serious damage from this disease this season, due largely to the warm weather early in the season. (Johnson, Sept. 1)

Sore-shin caused by Pythium (?) Rhizoctonia (?):

This disease occurs occasionally on a very small percentage of the plants in the field. (Johnson, Sept. 1)

Damping off caused by Pythium and Rhizoctonia:

Some damping off occurred but disease is now rarely serious to any grower. Most growers sterilize their seed beds, or select places where this disease is not likely to occur. (Johnson, Sept. 15)

Potash starvation caused by potash deficiency:

A dozen cases of this characteristic trouble on tobacco was noted in "northern" Wisconsin sections this season. (Johnson, Sept. 1)

Non-parasitic leaf spot, cause unknown:

(Mosaic "rust" not included). Comparatively little of such maladies occurred this season. (Johnson, Sept. 1)

ONION SMUT REPORTS

Massachusetts: About the usual amount of smut was found in the fields this year. Formaldehyde gave excellent control for the most part, but, owing to the dry condition of the soil at the time of application, there was considerable injury to the seed from this source. (See article by P. J. Anderson in Phytopathology for September, 1923.) (Osmun, Sept. 15)

Ohio: Considerable infection recorded earlier in the season, especially in sections where onions are grown successively in the same field for several years. (Thomas, Sept. 15)

Illinois: Has been reported present in the Peoria truck region. Examination of 5 acres in the S. Halstead district of Chicago showed smut but not in serious amounts. Control here is obtained partly by rotation. In the Arlington Heights district formaldehyde is consistently used and excellent results are obtained. In a one acre field so treated, control was complete except at the ends of 3 rows where the formaldehyde gave out. About 75% in these places were smutted. (Tehon, Sept. 15)

ROGUING FOR POTATO MOSAIC SUCCESSFUL IN WISCONSIN

"In 1922 a field at Pembine showed 12% mosaic. This field was thoroughly rogued. In 1923 a field planted with this rogued stock showed only 6% mosaic.

"Another grower at McNaughton did not believe in roguing in 1922, although from 12 to 15% mosaic was present. He staked the apparently healthy plants and used tubers from them for seed in 1923, which resulted in 25 to 30% mosaic.

"Thorough roguing and maintaining an isolated seed plot is coming to be practiced by our better seed growers.

"(Above observations from conversation with J. W. Brann, Potato Inspector)." (R. E. Vaughan, Sept. 15)

REPORT ON TRUCK CROP DISEASES FROM SANFORD, FLORIDA

Under date of September 15, A. C. Foster who is located at Sanford, Florida, studying diseases of vegetable crops, writes as follows:

"Since returning here I find the growers are having as much trouble as ever with their plants in the seed beds.

"It is almost impossible to find a seed bed that has not a certain degree of nematodes present and in some instances every plant is affected. The celery plants have just reached the stage of growth when they show the effects of the nematode attack, becoming yellow and stunted. So far not a single grower has adopted any of the preventive measures to control nematodes. Nematodes have been found on celery and peppers during the past week.

"Damping off in the seed beds is another of the serious troubles every grower has to combat, as not a single one will escape its presence. The conditions here this time of the year are rather ideal for the development of most of the damping off fungi, a rather high temperature with an abundance of moisture under shade and plants sown thickly in the seed beds. It is difficult to attribute damping off to any specific organism but it is probable that the phycomycetes are responsible for most of the trouble. Rhizoctonia, Sclerotinia and Sclerotium rolfsii are forms commonly present. I have just inspected one seed bed of peppers in which case at least half of the plants were damped off by what is apparently Rhizoctonia.

"Cercospora leaf spot is now very common on the early plantings of peppers and will cause considerable loss unless checked by spraying.

"It is rather remarkable how growers have treated their cabbage and cauliflower seed to prevent the black rot from appearing as it did last season."

COTTON BLACK RUST, MACROSPORIUM NIGRICANTIUM, EPIDEMIC IN SOUTH CAROLINA

According to H. W. Barre and W. D. Moore, black rust of cotton is more prevalent in South Carolina this year than ever before. It seems to be most severe on lands lacking potash.

ANGULAR LEAF SPOT OF COTTON (BACTERIUM MALVACEARUM)

Alabama: Not general. Unimportant. (Miles, Sept. 1)

Mississippi: Date of first report June 28 from Oktibbeha County. Numerous raports from various sections of the state indicate that the disease is general. In some fields the plants have been practically defoliated by the disease. In other fields only a slight spotting of the leaves has occurred. (Sect. Pl. Path., Sept. 1)

Arkansas: Present in all fields inspected but apparently causing little damage in most cases. Much of the damage from this trouble seems to come on later. (Young, Sept. 1)

REPORT ON VIRGINIA APPLE DISEASES

Under date of September 1, Collaborator F. D. Fromme sends in the following information concerning apple diseases in Virginia:

Scab (Venturia inaequalis):

Almost non-existent in commercial orchards in Shenandoah Valley. Check plots in spraying experiments show only trace as compared with practically 100% infection last year. Absence of rainfall in May accounts for this. (Lack of rain in May, keeps the scab away). More pr valent in Southwest than ensewhere but not unusually severe here.

Blotch (Phyllosticta solitaria):

Lack of rainfall doesn't seem to have influenced development of this disease. It has produced the normal infection in orchards where it is established. Have seen some cases of 100% infection in unsprayed trees.

Cedar rust (Gymnosporangium):

Slight importance as compared with previous years. Fruit infection is very slight and so many leaves have reached resistant stage before spore showers come that defoliation will not cause appreciable dwarfing of fruit.

Bitter rot (Glomerella cingulata):

A few cases of severe injury reported but crop as a whole is quite free from injury.

OTHER STATES REPORT ON APPLE SCAB

Massachusetts: Not severe in most orchards, but in a few isolated instances infection has been heavy, especially on McIntosh. Both spraying with lime sulphur and dusting with sulphur have been successful in experimental orchards. (Osmun, Sept. 1)

Wisconsin: Less scab than usual. More spraying than there was before. There are 70 farm orchard spray rings of 8 to 12 growers, each operating this year in addition to spraying in commercial orchards. On unsprayed plots Sturgeon Bat Branch Station Dudley variety gave 90% alight scab, Wealthy, McIntosh, Duchess, Snow, and Jubsk's Queen gave 50%. (Vaughan, Sept. 1)

APPLE RUSSETTING

Wisconsin: A light type of russetting occurred on Wealthy in Door County, often becoming severe and followed by cracking. Symptoms resemble mildew russet of the Pacific Coast but no mildew was present. It is being associated with night temperatures around 40°F which occurred for a week period starting ten days after blossoming. This type of russetting was slightly more severe on sprayed than unsprayed trees, probably due to the fact that spray materials augmented the naturally unfavorable conditions. (L. K. Jones, Sept. 1)

RED LEAF OF PEAR IN NEW YORK

"Present all over the state where pears are grown. Trees affected with red leaf exhibit signs of general unthriftiness; they seem not to be restored to health or to respond to any form of fertilization or cultivation. In some orchards many trees are affected, in others a few individuals stand out prominently among surrounding healthy trees. (Guba, Sept. 15)

SHOTHOLE OF PLUM CAUSED BY COCCOMYCES PRUNOPHORAE

New York: Coccomyces prunophorae has been reported from 21 counties, the first report being for May 21, 1923. The disease is common everywhere where plums are grown. No losses of any importance have been noted or reported. (Guba, Aug. 1)

Ohio: Very serious in some orchards, particularly upon the Lombard variety. (Thomas, Aug. 1)

Michigan: The season has been very unfavorable for the development of shothole. There is very little to be found, even in neglected orchards. (Bennett, Aug. 1)

Minnesota: Common everywhere - not more prevalent than usual; little damage. (Sect. Pl. Path., Aug. 1)

BLACK ROT OF GRAPE (GUIGNARDIA BIDWELLII)

New York: Not prevalent in commercial plantings. Reports of the presence of the disease have been received from twenty-five counties, but the reports for the most part indicate a trace of the disease, this being largely foliage infection. Inquiries with specimens of grape clusters severely affected with Black Rot have been received from Nassau, Wayne and Tioga Counties. It was first reported June 17. The disease is generally distributed over the state on Virginia Creeper (Psedera) on which it has been noted for the most part on the foliage. Some defoliation has been observed. First report June 16. (Guba, Sept. 15)

South Carolina: Several vineyards in western part of state severely attacked. Crop reduced from 15 to 40%, due to neglect in spraying. (Moore, June 13).

Ohio: The control of this disease is very satisfactory in all commercial grape growing sections. Black rot is usually most conspicuous in small home plantings. (Thomas, Sept. 15)

ADDITIONAL INFORMATION CONCERNING BLACK PIT OF PECAN

South Carolina: This trouble has been unusually severe this season. Orchards and individual trees have been noted throughout the state and in every case from 10 to 75% of the nuts have been infected. The trouble was first noted about August 10 and has become serious since that date. In many cases the entire crop will be lost. (Moore, Sept. 15)

BROOM CORN DISEASES IN ILLINOIS

L. R. Tehon, collaborator for Illinois, sends in the following information on broom corn diseases. A special examination was made of the Illinois counties that are most important in the production of broom corn.

"In Henry County an examination of three ten-acre fields on August 25th showed no disease whatever. Examinations in the broom corn region in Douglas County were, however, more productive. Bacillus sorghi was found in practically every field visited where there was 100% infestation upon plants, the disease varying from merely a trace up to a maximum of spotting and rarely entire plants were so thoroughly infested as to be badly stunted and rotted throughout the entire interior. In one field not less than one in every 500 plants was that badly affected.

"Colletotrichum in broom corn was nearly as abundant as the bacterial disease but was on the whole much more serious. There was serious leaf spotting which resulted in stunting of the canes and frequently infection at the top of the cane caused a wilting of the broom and a resulting 'crook' which made the broom undesirable for sale.

"These two diseases are probably the most serious we have to contend with in Illinois, not because of the actual damage which

they do to the plants but because of their extreme commoness and the fact that they attack any part of the plant. It seems that no matter what kind of injury occurs to a broom corn cane or brush the injury results in a deep red discoloration. Even the slightest spotting on the brush caused either by Colletotrichum or by the Bacillus results in disfiguring stains and reduces the market value of the brush.

"Broom corn smut was not found once in all the examinations made." (Tehon, Aug. 30)

POTATO LATE BLIGHT REPORTED FROM WISCONSIN

"Under date of September 26, county agent H. J. Ramslow, Price County, reported finding late blight rot of potatoes in a field near Phillips, Wisconsin." (R. E. Vaughan, Sept. 28)

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